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CACTUS AND SUCCULENT JOURNAL

Of the Cactus And Succulent Society Of America

Vol. XX APRIL, 1948 No. 4

FIG. 31. There are several forms of *Haworthia margaritifera* that are available and easy to grow. Haselton photo.

CACTUS AND SUCCULENT JOURNAL

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Vol. XX APRIL, 1948 No. 4

A Beginner's Collection of Mesembs. Part. II.....Paul Hutchison 47
The Effects of Prolonged Drought on the Vegetation in Southern Baja California.....Ira L. Wiggins 49
Cereusly Speaking.....John E. C. Rodgers 52
A Green-flowered Sédum from the Sierra Madre del Sur.....Robert T. Clausen 53
New Species from Peru.....John Akers 55
Growing Epiphyllums in Coastal Southern California.....Paul L. Fort and W. G. O'Barr 57
Spine Chats.....Ladislaus Cutak 59

HUNTINGTON GARDENS

Ronald B. Townsend is now Superintendent of Huntington Botanical Gardens at San Marino, California. He succeeds William H. Hertrich, who became Curator Emeritus after having charge for over 40 years.

MEETING OF THE NATIONAL SOCIETY

Several years ago the regular public meetings of the Society were discontinued in favor of one of the local affiliates who would conduct all such meetings. The results have been disappointing with no public meetings since before the war. Recently your Research Committee asked President Brassfield if it might arrange a test meeting to see whether or not there was any local interest in public meetings. The answer was in the affirmative and we filled the lecture room of the Los Angeles Public Library on March 23rd with an attendance of nearly 200.

There were two features for the meeting: William Hertrich showed his moving pictures of the Huntington Gardens and a hundred of the Proctor slides were shown. Many old-timers were there and an encouraging number of younger faces; it is this latter group that must carry on the study of these plants. There was such a feeling of good fellowship and enthusiasm that the answer is that there should be more meetings of this kind. It is interesting to note that no refreshments were served!

A few reactions should be noted. The Journal asked that all commercial men who were planning to attend should mail the editor a postcard; no cards were received. The Journal requested donations of door prizes; John Poindexter and Mrs. Cariss were the only ones to respond. It is important to read your Journal and to take an active part, otherwise failure to cooperate at each opportunity may result in failure. Probably 75% of those who attended were not members of the Society yet no new members resulted from this first meeting. We still feel that the meeting was a success and follow-up meetings should add numbers to our Society.

The out-of-town door prize was won by Mrs. M. Demmel of Brooklyn, N. Y., and she will receive a package of flowering size plants from Guy Quinn, Olden, Texas. Many thanks to a dealer who really cooperates with the Society.

The highlight of the evening was in conferring on Mr. Hertrich an Honorary Life Membership in the Society as a slight token of appreciation for the work he has done in building the world's finest cactus collection and for his kindly cooperation with us all these years. Now that he will have a little more time to enjoy his plants we hope to hear from him through the pages of the Journal. It was a fitting occasion because just 20 years ago Mr. Hertrich addressed the Society in the same room at the same time.

CORRECTIONS AND APOLOGIES

Please correct the caption on the cover illustration of the April issue to *Haworthia Reinwardtii*. The error is so glaring that it requires no comment—one of those cases when you have a plant name in mind and for some unknown reason you write another name that is in no way related. The plant shown on page 29 is in the Section Coarctatae. The editor assumes full responsibility for the error.

The illustration of *Lithops* on page 46 of the March 1947, Journal should have been credited to H. Jacobsen. The photo was received from Triebner without other identification. It also appeared in "Succulent Plants," 1935, page 195. Thank you Mr. Jacobsen and we hope that our Journal may be honored with a contribution from you in the near future.

NEW PUBLICATIONS

The Allan Hancock Foundation of the University of Southern California has just published Numbers 1 and 2 of its Occasional Papers. The first part "New Cacti of Southern Mexico" is by Dr. E. Yale Dawson and is illustrated with 28 photos and six figures in color. The cacti were collected in newly accessible areas, chiefly southern Oaxaca. Among the 23 descriptions are the following new species: *Cephalocereus apicicephalium, C. nudus, C. quadricentralis,* and *Lemaireocereus setispinus*. In completing the descriptions of other meagerly described species, Dr. Dawson deserves commendation for his recognizing previously published names rather than to add many new species to further complicate the taxonomy of these plants. The second part consists of two new Mammillarias from Puebla and Oaxaca, Mexico, by Dr. Robert E. Craig and Dr. E. Yale Dawson: *Mammillaria nejapensis* and its three varieties: *typica, brevispina,* and *longispina; M. duoformis* and its varieties *typica and rectiformis*. These Mammillarias are shown in five photos. The book is available from the University of Southern California, University Park, Los Angeles 7, California., $2.25.

"Wild Flowers of the West" is a beautiful booklet, in color, of 76 popular and spectacular wild flowers seen in California, Oregon, Washington, Arizona, Idaho, and Nevada. The Proctor's are well represented with more of their cactus pictures; in fact about one third of the pictures are of desert plants. While the supply lasts the booklets are available free from your Richfield Service Stations in the states named above.

FIG. 32. Lithops grown by Mildred Orpet, Santa Barbara, California. Plants from Johnson Cactus Gardens. Photo by L. O. Huggins.

A Beginner's Collection of Mesembs.

By PAUL HUTCHISON

Part II

When I was 13, I joined the Cactus and Other Succulent League of Oakland, California. At a meeting I won in a drawing, an odd little lump of a fellow whom I was told went under the formidable name of *Pleiospilos Bolusii.** I learned that he was a cousin of the Faucarias—and we soon became fast friends. Every year, darned if he didn't just up and plop out two new leaves which soon were bigger than the old ones. The old leaves would shrivel and die and there'd still only be a single pair. One afternoon he disappeared under a solid shimmering yellow screeen of flowers and I promptly promoted him to position with Faucarias.

The next day I wrote to Southern California enclosing a money-order for a little over a dollar, and in a week I breathlessly tore apart the carton containing five new *Pleiospilos*. I liked *P. willowmorensis* best. He clustered in neat clean mounds, his leaves were snug, broader than the others, greener, and not so thick; he filled a 5-inch pot in a year, and now I have seven or eight pots. *P. Nelii* and *P. simulans* were all right, but too much like *Bolusii*. Only after they had grown a while did I appreciate their more subtle charms: *Nelii* with his tight, double leaves like a football split in half, and *P. simulans* with his flat, noncommittable face and triangular leaves. *P. Hilmari* was a meek little guy—and still is; he hasn't a strong constitution either, doesn't like too frequent baths, prefers to rought it and to be let alone.

Now I have 19 *Pleiospilos*, and each has revealed a charm of his own. *P. Archeri* was purchased on my first trip to Southern California, when I visited all the larger nurseries for the first time. He was very small then, a half-inch across. Two years ago I stepped on him and squashed a leaf. He had been placed on the

*See Vol. II, Cactus and Succulent Journal.

floor of my lath house to harden up after a winter under glass. I trimmed the wound and sulphured to prevent rot and he was soon well on the way to his first bloom.

I always potted my Pleispilos as soon as they arrived, giving them one watering immediately, if they had roots, but taking special care to see that they were not kept wet enough to rot. Once established they required little care, infrequent waterings being enjoyed. Occasionally, a plant arrived without roots, and this I'd reroot dry. Sulphuring wounds always aided in preventing rot or fungus growths.

In the bottom of the package bringing my Pleiospilos was a parcel marked "gratis:" *Lithops Peersii.* I searched through the catalog and found a picture of it and a list of other *Lithops.* I took the little ⅜-inch plant and examined it closely. There was a long tap-root leading up to a blue-gray-brown conical-shaped body with a split in the center. I planted it as I had the Pleiospilos, watered good and in two days the little fellow collapsed completely; just melted into a liquid mess.

Soon after, I acquired my first books on succulents, and in one of these, "Succulents for the Amateur," found *Lithops* discussed and pictured. I soon sent off an order for ten species in a collection for $1.50. I prepared a flat for these with about 2 inches of very sandy loam; about a 50-50 mixture, and with an inch of pea-sized river rocks on top. I planted the *Lithops* in this flat so that only the roots were in loam, the body of the plant nestling in the rocks. They survived temperatures of 34° on cold damp windy days, and a whole winter outdoors in rain with only lath for protection. In the summer they would take occasional waterings with a fan sprayer on a regular garden hose. Each day they were more interesting in the distinctive color patterns formed on the flat top surfaces of the leaves. I transplanted them into 3-inch pots with plenty of this same pea gravel around the plants and they liked it, but wanted less water.

I purchased new plants when I went south and have found that they grow best in an almost pure river sand when being started in pots. I always used 2½-inch pots sunk in sand in a flat, and of over 70 species of *Lithops* and similar stemless Mesembs. started as small seedlings, I have not lost one. When these 2 to 3-year old seedlings have grown to a ½-inch size they can be treated almost any way. They could be left in their pots indefinitely; the sand provides sufficient nourishment for them to grow quickly and bloom well, and there is less danger of the plants dying from rot due to overwatering. I found it necessary to conserve space and consolidated those groups needing similar treatment, eventually transplanting all into rabbit feeding bowls. These are glazed white, circular, 2½ to 3-inches deep and 6 to 8-inches in diameter. I knocked a hole in the bottom, filled with lots of sandy loam and used about 10 plants to a bowl. These plants were ¼ to ½-inch in size at that time. I used ground porcelain or clean coarse sand as a top soil to surround the plant body and the upper part of the tap-root. They liked it. I believe it better to grow them in large shallow containers, where the soil has less tendency to bake or grow sour, with a number of plants in each container.

My secret ambition is to have a rabbit bowl for each species of *Lithops* eventually containing five to ten plants. The effect of a mass planting of this sort would be startling, and were one plant to die, I would still be in possession of others of the same species.

To be continued

NEW PUBLICATIONS

Johnson Cactus Gardens "Treasure Trove from Cactus Land" is now available for 1948. This 36 page catalogue is a necessity for the hobbyist who can obtain hundreds of cacti and succulents by their common names. There are 280 illustrations, many in color. Send 25c for your copy to Johnson Cactus Gardens, Paramount, California.

"Neale's Pictorial Booklet of Cacti and Succulents" by E. Lamb. Worthing, England. This new 48-page booklet consists of pictures with their captions. There are 63 clear photos, mostly from Neale's Catalogue of 1935. Postpaid $1. After the first 50 are sold the price advances to $1.50. Box 101, Pasadena, Calif.

Wild Life Protection Society of South Africa publishes a quarterly magazine "African Wild Life" devoted to conservation of its plants and animals. The February issue 1948, contained among the many other interestig articles: full page photo of *Pachypodium namaquanum,* an article "Euphorbia in South-west Free State" illustrated, full page photo of *Aloe Pillansii,* and dozens of fascinating stories about animals, birds, etc. Along a humorous vein, I quote, "If the tail of a lizard should break or be cut off, it wriggles about for some time and the 'Basuto' (tribe) have a belief that this is the way in which the animal throws insults at the person who caused the damage—If you cut off a lizard's tail and the animal escapes, leaving behind the wriggling tail, the animal is insulting you. You must say to the tail,—And you too, and you too, until it stops moving!" If this magazine can prevent some of the American sportsmen? from slaughtering South African game, we should support it by sending 1 pound 1 shilling to Box 1742, Johannesburg, So. Africa.

SAN FRANCISCO CLUB

We have recently formed a Cactus and Succulent club here in San Francisco, the meetings are held the second week of the month, so if you can see your way clear I am sure the members would be grateful to you if you would join them at one of the meetings.

B. D. De Wayne 846 Geneva Ave., San Francisco.

ROCHESTER, N. Y.

Will member living in this area please contact Cecil C. Jackson, 65 Woodview Drive, about forming a local club.

The Effects of Prolonged Drought on the Vegetation in Southern Baja California

By IRA L. WIGGINS

The rainfall along the western slopes of the Sierra Giganta and the adjacent Magdalena Plains in Baja California is extremely erratic and unpredictable. Year after year the storms that bring rain to California, a few degrees of latitude to the north, may sweep past the peninsula without releasing any of the moisture carried by the hurrying clouds. These storms often originate too far westward and follow a path toward the northeast that lies beyond the limits of Mexico's Baja California, leaving the latter area dry even when southern California is drenched with winter rains.

One might expect that the summer storms, which carry rain inland across Sonora and the other states of Mexico lying to the south and east, would bring rain to the peninsula as well. But just as the winter storms that water southern California often by-pass the peninsula, the summer "temporales" that soak the hills and llanos of Sonora and Sinaloa, may build up too far to the south and move northeasterly just outside the limits of Baja California, or water only the tip of the Cape Region. Even the storms that originate south and somewhat to the east of the peninsula, swirl inland and carry rain to the mainland of Mexico, often are exhausted by the time they have swept over the mountainous areas of the Mexican highlands and the west coast of Sinaloa and Sonora. Hence, they may give little relief to the parched deserts and arid mountains of the peninsula.

At infrequent intervals rainless winters are followed by rainless summers over several successive years. During these cyclic droughts the country suffers grievously from the lack of water. Usually, such dry periods last two or three years at the most. Often they are terminated by devastating storms of hurricane force—if the dry spell is broken in the summer months—during which winds of high velocity drive the storms violently in a northerly or northwesterly direction. These hurricanes nearly always bring torrents of water that often cause disastrous floods. One finds difficulty in grasping the full magnitude of the contrast between the long, bitter dry periods with the lush months following a soaking downpour until he has seen the country under both sets of conditions.

In April and May of 1931, the late James I. McMurphy and I drove the length of the peninsula following a winter which had been outstanding for the general distribution and the copious amount of the rains. During that winter the storms moving toward the southern California coast had shifted slightly southward from their usual path and had given the peninsula several good soakings throughout its length. Laguna Chapala Seca was no longer "seca." It was a lake of no great depth, but several miles wide. The mud it covered was entirely too near the liquid state to permit one to drive across its bed! Southward along the peninsula we found playas that were covered still with a thin sheet of water, and many more that had dried out enough for a man to walk across them but they were not firm enough to support an automobile. Bordering these playas and growing luxuriantly up the hillsides nearby was a wealth of native vegetation. We found the Magdalena Plains supporting a diversified and comparatively lush growth of annuals. The shrubs and trees were in full leaf, many of them flowering heavily. The cacti were in splendid condition, their fleshy stems turgid with stored water. Most of them were in flower or bore numerous buds that would open later. *Opuntia cholla* was abundant and many of the plants stood six to ten feet tall, nearly every branch bearing a series of peach-pink flowers. *Pereskiopsis* had already set hundreds of fruits, many of them being mature enough to have turned bright orange by the latter part of April. Mammillarias were numerous and a large proportion of them were in bloom or bore young fruits. *Ferocactus, Echinocereus, Pachycereus, Lemaireocereus, Machaerocereus* and many species of *Opuntia* were healthy and in bloom or supporting numerous buds or green fruits. The dahlia-like roots of *Wilcoxia striata* were plump with stored water. The aspect of all of the succulents was that found only when an abundant water supply has been available.

In the fall of 1946, during October and November, I again traversed that part of the peninsula while on a field trip to La Paz with Dr. Albert M. Vollmer, Dr. Harold M. Hill, Dr. Telford H. Work, and his father, Mr. Telford Work. We had known that the peninsula had suffered from one of its prolonged dry spells, but a correspondent living on the west slopes of the Sierra San Pedro Martir had written that a heavy storm had swept up the Gulf of California early in September, drenching the entire peninsula. We saw evidence of the violent storm in the Sierra Juarez where we nursed the

truck over badly washed roads. Therefore, we expected to find good collecting in the central part of the peninsula, particularly in the Sierra Giganta. But as we drove south from Santa Rosalia we found that the storm, although violent, had dumped most of its rainfall in the Gulf and along the precipitous eastern escarpment of the Sierra Giganta! Its western fringe had extended westward over the peninsula scarcely to the crest of the range, so the long, gentle slopes leading down to the Pacific had remained dust-dry throughout most of its extent. On the escarpment and in the rocky canyons cutting into it, torrents of water had swept trees, rocks and debris into the Gulf, but had left comparatively little moisture in the crevices of the barren rocks and in the thin soil. Within a few hours surface water had virtually disappeared. By the time we arrived the country looked nearly as dry as though no storm had occurred.

Then, as we turned westward from Canipolé and followed the Arroyo de la Purísima toward the Pacific Coast, we found the arroyo had water in it only at intervals where dikes of impervious rocks came to the surface and forced the underground trickle to the surface. The intermittent ponds fluctuate little in extent from year to year owing to the steady although light drainage of water from the high Sierra Giganta. Apparently the rain had scarcely influenced the flow of the stream. The country became drier with each mile we travelled westward.

At San Gregório, a ranch about twenty miles northwest of the village of La Purísima, we were told that there had not been sufficient rain there to wet the dust for a period of four years! All of the local vegetation showed the effects of the prolonged drought. *Jatropha* shrubs were completely leafless, their usually plump twigs shriveled and dying. The cardons (*Pachycereus Pringlei*) were flaccid, the ribs sharp and narrow. The smaller cacti were affected as adversely as the larger ones. Not a single *Mammillaria* was found in bloom. Nor did the shrunken bodies of the Mammillarias bear fruit set earlier in the year. A few dwarfed flowers of *Machaerocereus gummosus* were seen, but most of them withered and fell from the plant without setting fruit.

The most devastating effects of the drought became apparent on the Magdalena Plains fifty miles or more to the south of San Gregório. In the vicinity of Santo Domingo, El Refúgio and Medano the vegetation looked as though scarcely any of it could survive many months unless the dry spell were broken soon. A plant of *Wilcoxia* was dug up to see what might be the condition of the fleshy roots. Instead of being plump and firm, they were wrinkled, flabby, and shrunken to less than one-third of the diameter one would have found after a soaking rain. Whereas we had eaten heartily of the delicious "pitahaya agria" (the fruit of *Machaerocereus gummosus*) near Punta Prieta and again near Rancho Mesquital, we found only an isolated fruit or two in a patch over an acre in extent. Flowers were virtually absent from *Machaerocereus, Echinocereus, Cochemia, Mammillaria, Pachycereus, Opuntia,* and *Pereskiopsis.* Of course, November is not the time of year when one would expect to find many cacti in flower, but had there been a good soaking rain covering the area in August or early September, there would have been some flowers in evidence, for most plants in that part of the desert flower as opportunists. Any rain that breaks a long dry period brings out some, or often, a great many blooms.

The ubiquitous *Opuntia cholla,* that in 1931 had exhibited dense, rounded crowns of branches and many rapidly growing young joints, were almost unrecognizable. The ultimate joints on this *Opuntia* soon fall to the ground when dry weather sets in, for the plant is self-pruning under unfavorable conditions. Not only the succulent terminal joints, but many of the larger and older sections had fallen from the plants by the autumn of 1946, leaving stark, stubby trunks with only a few badly shriveled and sickly branches on the main trunks. The fallen parts lay in circular windrows around the stricken plants. Almost none of the fallen joints had struck root although in a good year thousands of them become established around the parent plants. A few small plants that had become rooted before the drought and gotten underway had succumbed practically to the last individual.

Plants of *Pachycereus Pringeli* had suffered greatly, too. The leathery epidermis had shriveled until minute wrinkles had formed a network over the sides of the ribs. The furrows between the ridges had shrunken and receded toward the center of the trunk to such an extent that the spine-clusters often interlocked and partially obscured the reddish, dull tissues beneath. Healthy, well-watered plants of *Pachycereus* have a bright blue-green color, not the sickly, sun-burned appearance of these thirsty specimens about ready to die. The contrast between the water-starved cardons on the Magdalena Plains and the vigorous, turgid giants forming dense stands around the southern end of the Bahia de la Concepción, where the September hurricane had soaked the ground, was so striking that one could almost believe that two separate species were involved!

Even the extreme xerophyte, the creosote

bush (*Larrea tridentata*) had found the going entirely too dry, for these shrubs had lost all their leaves and stood stark naked. *Bursera microphylla, Ascepias subulata, Solanum Hindsianum, Jatropha cinerea, Ruellia peninsularis, Pithecolobium confine,* and even *Stegnosperma halimifolium* and *Atriplex canescens* were either entirely or nearly leafless. Annuals that blanket the plains following a moderate summer rainfall were totally absent, the seeds lying dormant in the powdery dust.

At El Refúgio we learned that there had not been enough rain to wet the desert in that vicinity for a period of seven years. Many well and water holes had dried up. Stock had perished or become so emaciated that they doubtless would die before rain and the accompanying verdue would arrive. Numerous small ranches had been abandoned. The people living at El Refúgio and at a few of the other more favored hamlets had been able to hold on only because they had wells that tapped the infrequent underground streams that arise well back in the Sierra Giganta and flow slowly but steadily beneath the sandy beds of the larger arroyos. Even in these places the garden plots and limited patches of irrigated ground had shrunk owing to the heavy drain on the well water when their own and neighbors' cattle were forced by the drying of the water holes to repair to the wells for water. The whole country presented a picture of parched suffering and desolation. During the continued drought through this, another year, one wonders what the fate of the Magdalena Plains and its inhabitants, human, animal and plants, may be.

It is my opinion that the immediately visible effects of a drough of such prolonged duration are only a portion of the summation of all the physiological and ecological effects visited upon the vegetation. I believe that in spite of the ability of the cacti to withstand severe droughts of moderate duration, such prolonged ones devitalize many of the plants to the point where they may succumb to the attacks of fungus and bacterial diseases even when the rains finally return. When such a persistent drought is broken, there are two strongly conflicting forces brought into operation. One is the resurgent tendency of the cactus plant when moisture is available. The other is the very rapid and vigorous growth of such bacteria and fungi as have lain more or less dormant together with the host plants during the period of dry weather. These two vigorous surges, one in the host, the other in the parasite, may begin almost simultaneously. In those cases in which the water-starved cactus plant has dropped below a certain, critical level in its metabolism, the multitudes of individual bacteria or fungi which begin growth and get a foothold in the tissues of the host plants, may build up such a formidable destructive force that the weakened cactus is overwhelmed. The very condition that is favorable to the growth of the cactus, namely, an abundant water supply, at the same time makes the cactus more than ordinarily susceptable to the attacks of the disease-producing organisms.

Thus it is, I think, that during or shortly following a season of high rainfall that has broken a long drought, one sees many cacti dying amid a wealth of luxuriant annual growth.

LOOKING FORWARD TO SPRING

By ROBERT ROSE

With the first few warm days one begins to turn their thoughts to spring. Maybe they just turn their thoughts and nothing more! But what they should do is begin to make some definite plans and perhaps a little honest to goodness work. We all know that its

These "False Spring Days" as they are called are frequently very good days to begin preparing a place for your plants. As soon as the frost is out of the ground you can begin to lay off your beds for the plants. First mark them out and outline them. Then remove the layer of top soil and put in its place some cinders or gravel for drainage and put the top dirt back after mixing it with some sand. Your succulents need a fairly rich, sandy and well drained soil. It adds a lot if your bed is raised a few inches above the surface of the surrounding ground. These beds can be prepared long in advance of the time of their use in May. You will appreciate their being ready when the rush of getting the plants out comes.

Then too there should be some thought given to the preparation of a lath house or the repair of an existing one. There is nothing that is such a life saver as a lath house for your plants. It gives them about the right amount of light, air, etc. Your plants will really repay you for a little effort. Get out your "Cacti for the Amateur" and study over the notes on lath houses and you will discover that they are not hard to build.

We should give some thought to some plants with color. I am sure lots of us overlook many of our colorful succulents like the Pachyeverias, Echeverias, and Sedums, because we regard them as common. I know of nothing that adds more color than a bed of some of these. You can work out a color scheme with them and they will hold their color in full sun. In fact I like the color of many of ours grown in this state better than those we ship in. They do hold their color if given sun. Now is the time to propagate your stock for the summer. Cuttings and even leaf starts will make plants in time. Most all of the plants do reproduce from leaf starts. In other words now is not a time to be idle. We should take advantage of the "False Spring Days."

While I was in the army and over on the other side I saw hundreds of beautiful Orchid Cacti both in flower and good healthy plants. Most of these were placed on window ledges and in semi-shady spots. Seeing these has renewed my interest in them and this summer I hope to add a few again to my collection and I will summer them in the lath house. I am convinced that the glasshouse gets too hot for these plants and they need lots of good air. Just a tip. The flowers are really worth a little effort.

From the Bulletin of the Heart of America Cactus and Succulent Club. ($1.00 per year. Paul Anderson, 604 W. College, Independence, Mo.)

Did not expect to revive my column, "Cereusly Speaking, the Diary of a Cactophile," but my mail and that of the Editor induced me to continue it so here goes after a lapse of four months. The plan is to use my diary for a particular genus, alternating between the cacti and other succulents.

Gasterias* are both beautiful and ornamental. They are related to the small Aloinae, the Haworthias and Apicras but differ in appearance. They have long or short, thick leaves—flat or triangular in cross section—dagger or sword-shaped. They are light green to gray, marked with white blotches or roughened tubercles like seed pearls. The compact leaves are parallel, in rosette form, or spiraled.

Decided that the foreign authors of succulent books speak with much more certainty of *Gasteria* species than our American authors. *Succulents for the Amateur*, pg. 156: "Unfortunately most of the Gasterias in cultivation are hybrids; comparatively few of the true species or their varieties are to be found in collections. They hybridize with each other easily." We must ignore the hybrids or have the true species replenished from Africa.

Checked on local and common names. Hart's Tongue, Deer's Tongue, Ox Tongue, and Pink Pearl are used. The latter is the only local name I've found listed in local catalogues. Pretty though, I think.

Some Gasterias in my collection bloomed in April. *G. caespitosa* (*G. maculata minima*) bloomed for the Cleveland Home and Flower Show February 28-March 6 exhibit of the Midwest Cactus and Succulent Society. Kept them on a Saturday-only watering schedule. Poor soil and continued dryness at the roots cause the drying up of the lower leaves in order to reduce evaporation.

Examined the 15 medium sized Gasterias sitting on a two-inch layer of sand in full sunlight all winter (in glass house). No black discs of dead tissue near the tips that Gasteria growers in this district complain about on house grown plants. Suggests lack of good light as they have had regular watering and good soil. Fungus only attacks plants in poor light. The window sill plants that I have, look fine.

The intense light of the African veldt makes these Aloinae grow best in the shade of bushes and small trees. The soil there is rich in humus and well drained. I follow this type of soil—⅔ garden soil, ⅓ sand and gravel, and a dash of lime or old plaster. My house-grown Gasterias prefer an east window in summer but I place them in a west window during the winter for best results.

You can't change a leopard's spots—is an old adage but I've changed the African blooming time of my Gatserias to our American spring. I keep them on the dry side from October to February, then water more frequently.

The largest Gasteria in my collection, *G. acinacifolia*, has parallel leaves 15 inches long. Usually throws two, four-foot multiple branched flower stalks. Fills two-thirds of my window sill length. *G. armstrongii*, the smallest, is six-inches across; like a grooved tongue in shape (see *Succulents for the Amateur*, Fig. 250).

Gasteria flowers are attractive salmon-pink pouches shading to green with green stripes running down the center of the "petals" (perianth segments). Graceful ad interesting. *G. caespitosa* has an 18-inch flower stalk hung with delicate little pouches on a slender stem. One of the most desirable of the fifty species.

Plant of the month is *Gasteria verrucosa*, so-called because it has wart-like elevations which, in Latin, are called "verruca" meaning wart. Commonly called Hart or Deer's Tongue because of its fancied resemblance to the slender tongue of a deer. The original species was collected in South Africa where the seasons are opposite to ours. Blooms in the South African spring and early summer—September to December. Because of its warty appearance and tough hide this species, like the rest of the genus, is very drought resistant. Grows best in a well drained humus soil with plenty of pot room. Its thick fleshy roots show that it's a gross feeder. Leaves are 6 to 9 inches long and grow in one plane. In cultivation it is often a smaller plant than habitat specimens because we grow them in pots and a poorer soil and give them haphazard care. Blooms regularly, usually branching with flowers developing and opening progressively as the stalk lengthens. The true species has more red in the pouch than the salmon tones that we have; the green stripe is also more pronounced. The flowers average ¾ of an inch in length and ¼ of an inch at the open end. Because of its size, shape, etc., it has been crossed with *Aloe variegata, aristata,* and *striata* to create the popular Gastroleas.* It has also been crossed with *Haworthia radula* to make the plant called *Gasterworthia Guillaumia.* Mature leaves can be rooted in Vermiculite, ½ peat moss and ½ sand mixture, or even garden soil. Split the leaves into the inner tissue, then let them callous and plant; increases the number of offsets. Sand is not advised for rooting cuttings. Offsets sometimes form roots before becoming detached from the parent plant. There are three forms of *G. verrucosa*: *intermedia, latifolia,* and *scaberrima.* A sunny window during winter makes the nickname "Pink Pearl" come true.

Although most books seem to ignore the fact that Gasterias have pests, they do. Mealy bugs, ants, nematodes, and aphids. Cold water used as a fine spray and strict cleanliness usually gets rid of mealy bugs as well as ants. To destroy nematodes, remove the roots back to clean tissue and then re-root. Aphids on the flower stalks can be controlled by using "Blackleaf 40" spray. If the flower stalk dies before maturing, it means that the plant is starved; feed with liquid manure.

I've tried to cover a big field with a few deft strokes of my pen. I hope that you approve. It's another attempt to use my 15 year diary of cactophiliac happenings among my cacti and succulents. Next month I shall feature *Rebutia minuscula.*

JOHN E. C. RODGERS
1224 8th Street, Lorain, Ohio.

*For illustrations, see *Succulents for the Amateur*, p. 156.

*See *Glossary of Plant Terms*, pg. 53.

KODACHROME SLIDES

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R. C. PROCTOR
1330 E. Coronado Rd., Phoenix, Arizona

FIG. 33. Type specimen of *Sedum chloropetalum* sp. nov. cultivated in greenhouse, Ithaca, N. Y. Photo by W. R. Fisher.

A Green-flowered Sedum from the Sierra del Sur

By ROBERT T. CLAUSEN

Few species of *Sedum* have green petals. Most are with the flowers yellow or white. Among those which may have greenish white petals are *S. amecamecanum, S. chrysanthum, S. Tacquetii* and *S. Notarjanni*. Only one of these, namely *S. amecamecanum*, is American, and the greenish white petals which I have seen on a cultivated plant of that may not have been normal, for other writers have described the petals as yellow. The species to be described below is remarkable because the corollas are yellowish-green. Further, the petals are streaked with pink and pink at the base. The plants are much branched subshrubs with the stems gray and finely papillose. Mr. T. MacDougall discovered this curious species in 1942 at Santo Tomas Teipa in the mountains southwest of Tehuantepec, state of Oaxaca, Mexico. This locality is in the Chontal, a region at the eastern end of the Sierra Madre del Sur. The plants which are the basis for the following description grew from cuttings which I obtained from the New York Botanical Garden, as no. 589/42, through the courtesy of Messrs. E. J. Alexander and T. H. Everett. In naming the species to which they belong, I have selected an epithet which draws attention to the color of the petals.

Sedum chloropetalum, sp. nov., subgeneris *Pachysedum,* sectionis *Fruticisedum*. Suffrutices erecti, ad 7.5 dm., ramis griseis, belle papillosis, divaricatis ad 1 m. longitudine; folia alterna, breve-calcarata, rotundata ad apices, luteoviridia, nonnumquam punicea in marginibus ad apices, 3-29 mm. longa, 2.5-8 mm. lata, 1.2 mm. crassa; cymata terminata, foliosa, duopartita, 1-8.0 cm. in diam.; bracteae florales spatulatae vel elliptico-oblongae, 4-11 mm. longae; flores 5-partiti, 9-12 mm. in diam., sessiles vel pedicellati in pedicellis 1-3 mm. longis; sepala oblonga, obtusa, pallide viridia, summe impara, 2.4-6.6 mm. longa, 0.8-2.4 mm. lata; petala elliptico-lanceolata, acuta, canaliculata, luteoviridia puniceo-striata et punicea ad bases, 5-6 mm. longa, 2.4 mm. lata; stamina filamentis coccineis et antheris rubris, 3-4.4 mm. longa, epipetala adnata 1.2 mm. supra basibus petalorum; squamae nectariferae transverse oblongae, luteae, 0.4 mm. longae, 1 mm. latae; pistilla erecta, viridia vel chrysanthemo-coccinea, 3.2-5 mm. longa; ovulae placentis marginalibus, medianis, duabus. Species floret in Iunio, Novembri et Decembri. Typus est planta culta ad Ithaca, N. Y., 1947, Iunius 26, R. T. Clausen n. C45-50 in herbario, Cornell University, originaliter ab Santo Tomas Teipa in montibus inter meridiem et occasum solis spectantibus ex Tehuantepec, Oaxaca, Mexico, circa 16° 20′ Bor., 95° 35′ Occ., T. MacDougall.

FIG. 34. Floral stem of *Sedum chloropetalum* sp. nov. Branch of type specimen. Photo by W. R. Fisher.

In some respects *S. chloropetalum* resembles *S. retusum*. Both species are sub-shrubs with the stems gray and finely papillose and the petals pink at the base. They are easily separated, however, by the apices of the leaves, retuse in *S. retusum*, rounded in *S. chloropetalum*. Further, the petals of *S. retusum*, except at the base, are white, but those of *S. chloropetalum* are green. *S. oxypetalum* is a larger shrub with rough bark, leaves mamillate at the apex, red petals and elongate, spatulate-oblong nectaries. The recently described *S. pulvinatum* has smooth stems and white petals.

A peculiar feature of *S. chloropetalum* is the manner in which the branches of the cymes continue to elongate after flowering. These may continue growth as leafy stems and later bear further cymes of which the branches may again elongate. The type of placentation also is noteworthy. Instead of the ovules being borne on elongate marginal placentae, they are grouped and arise from placentae which are approximately median on the margins of the carpels.

I am pleased to acknowledge continued support of my research on *Sedum* by the Trustee-Faculty Committee on Research of Cornell University.

Department of Botany
Cornell University
Ithaca, New York

FROM CONNECTICUT

I am still very much involved with almost a thousand plants which have all been properly staged. I have found that gypsum ground up in the soil with a light addition of shaved cow's horn seems to be a diet that most cactus enjoy judging by the roots and growth produced. Have never seen these two items mentioned so possibly you might like to include it some time in your notes unless it is already an old story.

MRS. C. I. DE BEVOISE.

MAKE AN OFFER

The following books will be sold in a single lot; what do you offer? B. & R. reprint, deluxe edition; Cactaceae; Mammillaria Handbook; fifteen first volumes of the Journal, bound; vols. 16, 17, 18, and 19 unbound; Bulletin, vol. I; Brazil, Orchids of the Tropics; Manual of Desert Trees and Shrubs; Arizona Cacti; Houghton's Cactus Book; Glossary of Succulent Plant Terms. All in good condition. Box 101, Pasadena, Calif.

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W. C. DUNHAM

128 B Street Salt Lake City, Utah

A Vermont member reports a Gasteria flowering in a north kitchen window during the cold months of January and February. The flower stalk was over four feet long. If these plants will flower under those conditions they will flower anywhere.

From "Science Illustrated," April, 1948. Five illustrations, one in color, on moving a 12-ton Arizona Giant Cactus (*Carnegiea giganteae*) from the desert to a lawn of an estate. The plant was 38 feet high and estimated to be 300 years old. A huge crane, 43 matteresses and 6 bales of hay for packing were required to move this cactus without marring its beauty. Also in the same magazine were 13 photos showing the development and opening of an Epiphyllum hybrid flower which was recorded in a moving picture. It required 13,104 frames or shots which were spaced from 3 to 30 minutes over a period of three months. From a quarter-inch bud to the unfolding size, required 84 days according to the illustrations of John Ott. For some reason the flower must have been retarded because his films show that six days elapsed while the flower was opening.*

**Ed. Note:* Try this with your movie camera: Tie a light thread around an Epiphyllum bud that is about to open. Set your camera and floods in place and release the thread. The flower will then open slowly, the stamens and style assuming their natural positions—all within 30 to 60 seconds. S. E. H.

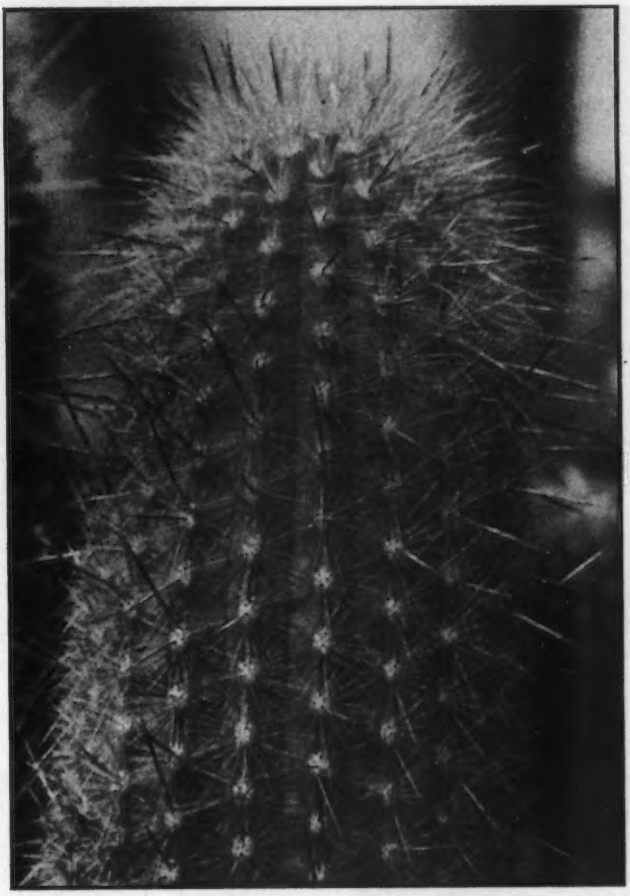

FIG. 35. *Peruvocereus clavatus* sp. nov.

NEW SPECIES FROM PERU

By JOHN AKERS

Peruvocereus clavatus sp. nov.

Plantae columnares usque ad 1 m. altae, ramis ex basi adscendentibus 5-10 tumido-clavatis diametro circa 10 cm.; epidermis flavido-viridis propter spinas tam numerosas vix manifesta; costae circa 18 humiles; areolae rotundatae 5 mm. latae 2 mm. altae unusquisque circa 30 spinas flavas aciculares flexiles 5-15 cm. longas ac pilos breves crispos albo-cinereos atque 30-35 setas flavidas brunneitinctas 7-15 mm. longas gerens; spinae centrales plerumque duae subulatae 3-4 mm. longae basi flavas apice brunneae denique canescentes; flores prope apicem ramorum solitarii anguste infundibuliformes, limbo rotato diametro 4-5 cm. segmentibus interioribus spathulatis apiculatis atroroseis, segmentibus exterioribus item apiculatis linearibus reflexis atrorubro-brunneis, corollarum tubis circa 6.5 cm. longis rubro-brunneis squamatis; tubi squama unusquisque in axilla pilos circa 20 albo-bombycinos atque paucos brunneos 5-8 mm. longos gerens; ovarium viride squamatum pubescente; stamina multa vix exserta, filamentibus basi albis apice roseis; stylus inclusus, stigmatium lobis 12-14 circa 1 cm. longis viridibus; frutcuts late truncato-turbinatus diametro circa 4.5 cm., fructus squamis vix 1 mm. longis chartaceis inter se circa 1 cm. separatis, florium segmentibus dessicatis persistentibus; semina parva negro-lucida minute punctata, hilo griseo; radices lignescentes, cortico squamato passo.

Peruvocereus clavatus sp. nov.

Plants columnar, less than one meter high and branching from the base to form groups of from 5 to 10 stems; stems swollen, clavate about 10 cm. or more in diameter; epidermis hardly visible, yellow-green; ribs low, about 18 in

number; areoles felted, nearly circular (5 mm. long, 5 mm. wide and 2 mm. high) approximate (12 mm. distant); spine cushions filled with short, grayish-white, kinky hair; spines 30, yellow, mottled brown, hardly pungent, flexible, acicular and uneven (5 to 15 mm. long); central spines usually two, one ascending and one depressed, yellow tipped with brown (later fading to gray), nearly subulate 3 to 4 cm. long; bristles 30 to 35, yellowish, 7 to 15 mm. long and emanating from the lower half of the areole; flowers solitary from near the top of the stems, narrowly funnel-form with an expanded, rotate limb (4 to 5 cm. in diameter); inner perianth segments deep rose with a darker midstripe, spatulate, apiculate; outer segments apiculate, nearly linear, much reflexed, colored dark brownish-red; tube about 6½ cm. long, brownish-red, with many narrow apiculate scales with dark red tips; about 20 fine, white, silky hairs (5 mm. to 8 mm. long) emanate from the axils of the scales; usually a few wiry, brown hairs mixed with the white ones; ovary greenish, scaly and covered with white, silky hairs; ovules small, translucent appearing like unpolished grains of rice; stamens many, barely exserted; filaments thread-like, rose above and white below; anthers small, oblong, buff-colored; style included, heavy, buff-colored; stigma lobes 12 to 14, greenish and about 1 cm. long; fruit rose-red shaded purple, about 4½ cm. in diameter, flattened, slightly top-shaped; scales minute (1 mm. long), papery, yellow, distant (1 cm. apart); hairs from axils of the scales—very few, nearly microscopical; floral remains persistent, brown and covered with matted white hairs; pulp slightly acidic, edible, and occurring in white, translucent globules; seeds small, punctate, black, somewhat shiny with a bone-gray hilum; roots thick and woody with loose scaly bark.

FIG. 36. Habitat photo of *Peruvocereus clavatus*.

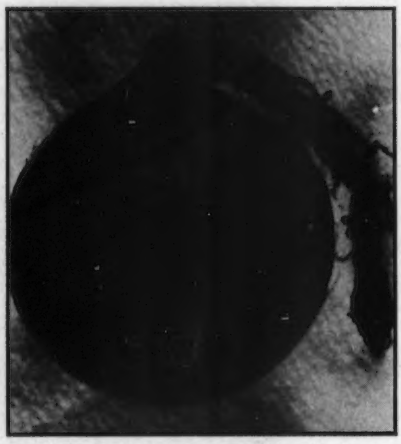

FIG. 37. *Peruvocereus clavatus* fruit.

Type locality: Canyons in the foothills north of the Lurin River Valley.

Distribution: The same.

This is the only other Peruvocereus so far encountered that had a rose colored flower (see *Peruvocereus albicephalus*, Jour. XIX, pg. 162). However, it is a very sparse bloomer. In its natural habitat, the spines and bristles become gray and shaggy and the plants become covered with lichens and Tillandsias thus giving them an old and hoary look. The thick, clavate stems are as large as any in the genus and often topple over with age to grow horizontally. The nearest related species is *P. setosus*, which also grows in the coastal hills. However, the larger, thicker, and much less bristly stems of the former serve to distinguish it at once from the latter. In cultivation, the large, yellow, bristly stems make this an attractive species. There is a still more attractive variety with reddish bristles that has not flowered.

EPIPHYLLUM HANDBOOK by Scott E. Haselton (1946). This first book on Epiphyllums and their hybrids gives their history and parentage as well as the flower parts and how to make descriptions. Complete cultural and propagation information. Explains hybridizing with pictures of all the plants used. Contains 250 pages with 170 photographs and 11 color plates. Price $3.50, postage U.S.A. 10c, foreign 50c. (Postage and sales tax in California 20c). Abbey Garden Press, Box 101, Pasadena, California.

FIG. 38
LEFT: Eight-foot espaliered plants. RIGHT: A hanging basket of *Schlumbergera gaertneri* with over 200 scarlet flowers.

GROWING EPIPHYLLUMS IN COASTAL SOUTHERN CALIFORNIA

By PAUL L. FORT *and* W. G. O'BARR

You ask about our methods of culture. Well, if we had not found them a very easy plant to take care of, we would not have decided to make them our specialty. So many persons approach Epiphyllum growing in a too scientific manner, usually with only medium results. To us they are simple, and what we do for them, in turn, is simple.

Soil Mix. Our fourth each of leaf mold, steer manure, decomposed granite and sandy garden loam or top soil. To this we add about two cups of bone meal to ten gallons of the mixture and about one cup of "Wonder-gro." After mixing, we moisten the mix a little before using for planting. This same mixture is used for potting, for starting cuttings, and as top dressing when pots need it.

Cuttings. We try to use mature growth, not too old nor too young. To us, the size of the cutting does not matter greatly. From many slips three inches or less in length we have grown wonderful plants. However, a larger cutting will mature and bloom more quickly in most instances. At one time we found our cutting of Kado's Fire God reduced by rot to a very tiny piece—about one and one-half inches high and two inches wide. You should see our six-foot plant now! Another time a specimen plant which had grown on an Opuntia was brought to us having been broken off at the graft. We pruned up the stub, tied the entire plant up on a frame, allowing the stub to be covered by about four inches of soil in the pot, and it never faltered. We allow cuttings to dry a couple of weeks, of course, before planting. We usually dip the fresh cutting in "Rootone," but this is not essential.

Watering. We always try and prevent our plants from becoming dry. Whenever the soil begins to look dry on top, we water. This applies to new cuttings, small plants, and the large ones as well. We are convinced these plants like plenty of free-flowing moisture and may be watered frequently if the drainage is good. We have observed stronger growth on plants that catch the drip from hanging baskets overhead. In effect, they get a double quantity of water. We watch our pots, you may be sure, for evidences of poor drainage. When one seems sluggish we push a stick into the drainage hole in the bottom of the pot to open it. All of our growing is done in clay pots. We may have to water more often than those who grow their plants in tin cans, but we feel this more frequent watering may have a tendency to overcome any stagnant condition that might become apparent in containers less porous than clay pots.

Light and Air. The plants should be placed, we believe, where they will receive about fifty percent shade with a free circulation of air. By fifty percent shade we do not, of course, mean full shade half a day and then full sun the other half of the day. We have found conditions provided by a lath house made with lath spaced about one and one-half inches apart to be about right. A tree with foliage which would let sunlight through would be about the correct condition of shade—sunlight of about the same proportion as

the lath house. Plants with insufficient light will either stop growing and become thin and weak or the growth that does occur will be tall and spindly. Also, plants which are too shaded will not bloom as freely as those properly conditioned with sufficient sunlight. One of the reasons we have tied our plants up on espaliers was to permit a free circulation of air and, also, to space the stems so they all would receive their share of the available light. Plants dislike stagnant air as much as they do stagnant soil moisture, and stagnant air conditions increase the possibility of pests and fungus. On the other hand, plants exposed to too much sunshine will become burned and dwarfed in size, and the flowers, when they appear, will also become burned and faded almost at once.

Transplanting. We often plant our cuttings directly in four-inch pots. When the pot seems to be well filled with roots, which might be within a year or two according to the rapidity of growth, we transplant into six-inch pots. While the plants are in the four-inch pots, we keep them tied up on single stakes, unless we are developing a hanging basket. We apply espaliers to our plants when they have reached a size requiring a six-inch pot. Also, pots are first hung as baskets in the six-inch size, with wire hangers we prepare. Transplanting progresses from pots of this size to eight or nine-inch pots for taller espaliers and, with the baskets, to nine or ten-inch clay hanging baskets. The largest pots we have in use are twelve-inch hanging baskets, and sixteen-inch pots for the espaliered plants which are eight feet tall or taller. Espaliered plants are tied in place with raffia, which we have found both firm enough and flexible enough for easy handling. For neatness, we clip our raffiia knots rather close with scissors. Of course raffia requires replacement about every two years, but when you are transplanting, retying is essential. We would welcome a more durable material for fastening the plants to the relatively permanent eight-foot espaliers so as to prevent the fronds falling and breaking.

Fertilizing. Last year our plants had been fed only twice which was insufficient. This year we are feeding monthly, having started the first of July. We intend continuing fertilization monthly right through the next blooming season because we have noticed in past seasons it takes the plants two or three months to recover from the ordeal of blooming and we feel it is illogical to deprive them of nourishment when they are expending their substance to such a great degree. (It is in reality a very great amount of substance as shown by the many buckets full of spent blossoms, weighing many pounds, which we remove from our plants during the blooming season.) We intend following the above plan despite the generally followed rule of discontinuing fertilization during and immediately after the flowering season. We are hopeful more available nourishment will assist the plants to resist attacks of disease, to which they seem to be most susceptible during the period immediately following the blooming season, when the plants are in their weakest condition. We use a balanced liquid fertilizer on our plants. We mix the dry chemicals together ourselves, dissolving the necessary quantity just before application to the plants. We have also used California Liquid Fertilizer which seems to be entirely satisfactory. We feel commercial liquid fertilizer can not be used exclusively on a plant indefinitely without transplanting in the meantime and the application of top dressings of the regular soil mix to provide needed humus.

Spraying. Usually two or three sprayings per year will control the few pests attacking Epiphyllums, we have found. We use an all-purpose spray, Super Destruxol, which is effective against both aphids and mealy bugs. Two sprayings during the developing period of the buds and a final spraying soon after the blooming season, especially for the control of mealy bugs which infest the plants the year around if not controlled, keep our plants in good condition. We are conscious of the mealy bug pest especially, since our garden is adjacent to a large clump of bamboo in a neighboring yard. This bamboo is infested with these bugs which spread to our plants. We are planning to move soon, and hope to become entirely free of mealy bugs.

We are, at last, building our new home and garden —COUNTRY GARDEN—in the soil lands of Manhattan Beach. We are getting ready to build our new lath house, which we hope will be large enough to take care of our many plants and display them as they should be displayed. Perhaps you will want to remember our new address—Twenty-third and Poinsettia, Manhattan Beach, California. We expect to be there for the 1948 blooming season.

FIG. 39. *Monvillea Cavendishii* is easy to grow and produces many flowers. Another fine species is *M. Spegazzinii*—see "Glossary of Succulent Plant Terms," page 75—with beautifully mottled branches. Grows well in varied cultural conditions.

SPINE CHATS

LADISLAUS CUTAK

I find that *Monvillea Cavendishii* is one of the most prolific bloomers of all the nocturnal cacti cultivated at Shaw's Garden. The plant commences to bloom in April and continues into August. On dull, cool days the flowers often remain fully open until 11 o'clock in the morning. It is almost a fool-proof plant and can stand lots of abuse. Frequently I have cut off the prickly stems which were covered with small buds and laid them aside; to my surprise the buds developed into gorgeous flowers and did not drop off as would be expected when subjected to this treatment.

Our plant in discussion honors William S. Cavendish, Duke of Devonshire, who is said to have had a magnificent collection of plants during his lifetime. This South American endemic was first described in 1840. It is a more or less branched plant with a sprawling habit in nature. It should be trained to a trellis in a greenhouse. The stems are slender, being about an inch in thickness except when very old, and from 3 to 10 feet long. Superficially they resemble *Nyctocereus serpentinus*. In color, the stems are olive green, marked by 7 to 9 low ribs upon which the small areoles are set about 1 cm. apart. The acicular spines consist of 6 or 7 black-tipped white radials and 1 to 3 yellowish or straw-colored centrals, in age all becoming greyish. The radials average 5 mm. long and are spreading or slightly appressed, while the longest central is usually porrect and 1 to 2 cm. long. Flowers are borne near the top of the stems, their sepals tinged with reddish, pinkish or greenish hue while the petals are pure white. The numerous white stamens are attached to the throat and are quite short, averaging only a half inch long. The style is also white, about 4 inches long, and with its 12 to 14 long white stigma lobes extends above the outermost ring of stamens. The flower tube and ovary are devoid of wool and spines but bear a few small, broad scales. The reddish, somewhat globular, spineless fruit is juicy and edible, containing white flesh in which the small black seeds are scattered in not too great a quantity for the size of the berry. The withered perianth persists on the fruit.

* * *

Four new species of Kalanchoe are described by O. Mannoni and P. Boiteau in the June, 1947, issue of Notulae Systematicae (13:149-154), publication of the Museum National D'Histore Naturelle in Paris. All four species hail from Madagascar, where the greatest number of kalanchoids occur. Three of these new species, *K. pseudocampanulata, K. Humberti,* and *K. serrata* are typical Bryophyllums with pendent flowers and more or less inflated calyces. The first species, found in forests around Mount Angavo in 1941, greatly resembles *K. campanulata* except that its carpels are convergent; the second is a shrubby species with large golden yellow flowers shaped like those of *K. Fedtschenkoi;* and the third is likewise a shrubby species but with larger and serrated leaves. The first comes into bloom in April, the second in May, and the third in June. The fourth species, *K. rhombopilosa,* is one of the smallest kalanchoids known, averaging 4 inches in height. Its flowers are as yet unknown although it has been in cultivation for several years.

Many of us already are acquainted with Carl Brassfield but those who aren't would, I'm sure, like to learn something about him; after all he is the President of the Cactus and Succulent Society of America and you have the right to know what kind of a man is at the helm. He joined the Society back in 1929 and five years later was elected to the Executive Board. Since then he has held some kind of office regularly. Carl was born in the Midwest and attended school in Kansas. Later the family moved to Missouri. In 1933 young Brassfield decided that he didn't like the cold Missouri winters any more, so the following spring he packed up his belongings and set out for California where he has resided ever since. The ride across the desert opened his eyes to the beauties of the weird landscape and the grotesque plants that grew in it. As the train slowly wound its way through the picturesque wasteland Carl was itching to get off and sate his sudden crave for exploration. It was months afterwards, however, before he had a chance to return to the desert to study and enjoy what he had seen from the train. With Mrs. Brassfield he collected a few plants and started a small garden. This was the beginning of a hobby that took the couple on many interesting trips. When his neighbor, Albert Krejci, started growing cacti from seeds, Carl became an interested onlooker and soon was transformed into a seedsman himself. He grew thousands of plants and sold the surplus or traded for other specimens until he had a very fine collection of rare plants. For several years he exhibited in the Society's cactus shows and won many ribbons and trophies for his efforts. He was what is known in circles an ACTIVE MEMBER, not only in name but also in deed. He shared his hobby with others for he realized that that is the only way to enjoy it.

Carl Brassfield is a decorator by trade and has worked for motion picture studios ever since he moved to California. Because of labor difficulties at the Twentieth Century-Fox Studio about a year ago he decided to go into business for himself and opened a small furniture factory on an industrial boulevard in North Hollywood where he turns out custom built furniture, does wood carving and design, builds art furniture and decorations, etc.

* * *

Aloe Saundersiae, native to Zululand, is considered to be the smallest known of the genus, according to G. W. Reynolds, the most ardent student of this group. Solitary plants are found among tufts of grass, the leaves spreading almost on the ground. The leaves are only 1 to 2 inches long, the inflorescence about 6 inches tall, and the individual flowers measure only one-half inch in length.

* * *

Candelilla wax is of vegetable origin. It is found as a coating on the surface of the plant known as *Euphorbia antisyphilitica* which grows in Texas and Mexico. The wax is obtained by immersing the stems in boiling water. The wax melts and rises to the surface. The refined wax is used in the manufacture of phonograph records, celluloid articles, varnish, shoe polish, floor wax, as an insulating agent in electrical equipment and water-proofing tentage.

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